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PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON ENVIRONMENT
AND DEVELOPMENT ON THE BASIS OF GENERAL ASSEMBLY RESOLUTION
44/228 AND TAKING INTO ACCOUNT OTHER RELEVANT GENERAL ASSEMBLY
RESOLUTIONS: CROSS-SECTORAL ISSUES

Information for decision-making

(Section IV, Chapter 9 of Agenda 21)

Report of the Secretary-General of the Conference

I. INTRODUCTION

1. Information as a cross-sectoral issue has been presented to the Preparatory Committee in the report of the Secretary-General to the third session (A/CONF.151/PC/41). The issues being dealt with in the present chapter have been discussed at the sectoral level in Working Groups I and II.
2. In sustainable development, everyone is a decision maker and hence a user and provider of information, in the broad sense, including data, information, appropriately packaged experience and knowledge. The need for information arises at all levels, from senior decision makers at the national and international levels to the grass-roots level and the individual. The

* See A/CONF.151/PC/96.

following two programme areas need to be implemented to ensure that decisions are increasingly based on sound information:

- (a) Bridging the data gap;
- (b) Improving access to information.

II. PROGRAMME AREAS

A. Bridging the data gap

Basis for action

3. While considerable data already exist, as the various sectoral chapters of Agenda 21 indicate, more and different types of data need to be collected, at local, regional and global levels, indicating states and trends of relevant ecosystem, natural resource, pollution and socio-economic variables. The gap in the availability and accessibility of data between the developed and the developing world has been increasing, seriously impairing capacities of countries to make informed decisions concerning environment and development.

4. There is a general lack of capacity in developing countries, and in many areas at the international level, for the collection and assessment of data, for their transformation into useful information and for their dissemination. There is also need for improved coordination between environmental and developmental data and information activities.

5. Commonly used indicators such as GNP or measurements of individual resource or pollution flows do not provide adequate indications of sustainability. Methods for assessing interactions between different, sectoral environmental and developmental parameters are not sufficiently developed or applied. Indicators of sustainable development need to be developed to provide solid bases for decision-making at all levels and to contribute to a self-regulating sustainability of integrated environment and development systems.

Objectives

6. The following objectives are important:

- (a) To achieve more cost effective data collection and assessment by better identification of users and their information needs at local, national, regional and global levels;

- (b) To strengthen local, national and international capacity to collect and use multisectoral information in decision-making processes and to enhance capacities to collect and analyse data and information for decision-making, particularly in developing countries;

- (c) To develop national and international mechanisms to ensure that planning for sustainable development in all sectors is based on timely, reliable and usable information;

(d) To make information accessible in the form and at the time required to facilitate its use by all people and institutions.

Activities

7. Development of indicators of sustainable development: countries at the national level and international governmental and non-governmental organizations at the international level should determine indicators of sustainable development. 1/ In order to ensure increasing use of some of these indicators in satellite accounts, and eventually national accounts, this needs to be coordinated with the United Nations Statistical Office.

8. Implementation of global monitoring of indicators of sustainable development: relevant United Nations agencies, in cooperation with other international organizations, should monitor a suitable set of sustainable development indicators, and indicators related to the global commons, such as, for example, open oceans, the upper atmosphere and outer space, and global conventions. They should coordinate with agencies such as UNDP (including its Sustainable Development Network programme), the World Bank and UNEP to provide guidance for the harmonized development of indicators at the national, regional and global levels; and that a suitable set of these are incorporated into common, regularly updated, and widely accessible reports and databases, for use at the international level, subject to national sovereignty considerations.

9. Improvement of data collection: within the United Nations, Earthwatch data collection activities need to be strengthened, especially in the areas of urban air, freshwater, land resources, including forests, rangelands, other habitats and soil degradation, biodiversity, and global atmosphere. In addition to strengthening existing development-related data collection, special attention needs to be paid to areas such as population dynamics, poverty, health, special groups, such as women, indigenous people, youth, and the relationships of these with environment issues. Countries and international organizations should carry out inventories of environmental, resource and developmental data available for each country, based on national/global priorities for sustainable development management, determine the gaps, and organize activities to fill the gaps.

10. Improvement of methods of data assessment and analysis: relevant international organizations should strengthen and develop guidelines for coordinated, harmonized collection and assessment of data at the national and international levels. Countries and international organizations should make use of new techniques of data collection, including data from satellite-based remote sensing. National and international data and information centres should make use of Geographic Information Systems (GIS), expert systems, models, and a variety of other techniques for the assessment and analysis of data. This will be particularly relevant as large quantities of data will need to be processed from satellite sources in the future. Developed countries and international organizations, such as UNEP's Global Environmental Monitoring System (GEMS) and Global Resource Information Database (GRID), as

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well as the private sector should cooperate with developing countries to facilitate their acquiring these technologies and know-how.

11. Establishment of a comprehensive information framework: countries should undertake the necessary institutional changes at the national level to achieve the integration of environmental and developmental information. At the international level, the environmental assessment activities in United Nations System-wide Earthwatch 2/ need to be strengthened and coordinated with efforts led by UNDP and IBRD to assess development trends.

12. Strengthening of the capacity for traditional information: countries, with the assistance of international organizations, should establish supporting mechanisms to provide local communities and resource users with the information and methodologies they need to manage their environment and resources sustainably, applying traditional and indigenous knowledge and approaches when appropriate. This is particularly relevant for rural populations and indigenous, women's and youth groups.

Means of implementation

13. Finance and cost evaluation: financing will have to be increased, particularly for environmental data gathering/assessment at both the national and international levels, although some redeployment and greater efficiency in the use of existing funds could be possible by better targeting information needs and associated data collection and assessment activities.

14. The activities for data collection and assessments are expected to require international funding on the order of \$1,500 million per year for global activities, \$300 million per year for accelerated development efforts, and \$70 million per year for international activities. The funding requirements of monitoring and assessment activities have been costed in other programme areas, in other chapters, except for the setting up of national centres for monitoring in developing countries, for which external costs are estimated to be up to \$20 million per year, depending on the number of such centres established.

15. Institutional means: institutional capacity to integrate environment and development and to develop relevant indicators are lacking both at the national and international levels. Existing institutions such as GEMS and GRID within UNEP and different entities within the United Nations system-wide Earthwatch will need to be considerably strengthened. Earthwatch has been an essential element for environment-related data. While development-data-related programmes exist in a number of agencies, there is insufficient coordination between them. The development-data-related activities of agencies like UNDP, IBRD, etc. should be more effectively coordinated through an equivalent and complementary "Developmentwatch". This and the existing Earthwatch should be coordinated through the office of the Director-General for Development and International Economic Cooperation to ensure the full integration of environment and development concerns.

16. Scientific and Technological Means: transfer of technology: with the rapid evolution of data collection and information technologies it is necessary to develop guidelines and mechanisms for the rapid and continuous transfer of these technologies to developing countries and for training of personnel in their utilization.

17. Human and resources development: training in all areas and at all levels will be required, especially in developing countries. This will have to include technical training of those involved in data collection, assessment and transformation, as well as training decision makers to use such information.

18. Capacity building: all countries, particularly developing countries, should strengthen their capacity to collect, store, organize, assess and use data in decision-making more effectively. 3/

B. Improving access to information

Basis for action

19. There already exists a wealth of data and information which could be used for sustainable development management. Finding the appropriate information at the required time and at the relevant scale of aggregation is an increasingly difficult task.

20. Information within many countries is not adequately managed, because of a lack of awareness of the value and availability of information and other immediate pressing problems, especially in developing countries. Even where it is, it may not be easily accessible, either because of the lack of technology for effective access or because of associated costs, especially for information held outside the country and available commercially.

Objectives

21. Existing national and international mechanisms of information processing, exchange, and related technical assistance should be strengthened to ensure free, effective and equitable access to information generated at the national, regional, and international levels, subject to national sovereignty and intellectual property considerations.

22. National capacities should be strengthened, including within governments, non-governmental organizations, and the private sector, in information handling and communication, especially within developing countries.

Activities

23. Production of information usable for decision-making: countries and international organizations should review and strengthen information systems and services in sectors related to sustainable development, at the national,

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regional, and international levels. Special emphasis should be placed on the transformation of existing information into forms more useful for decision-making, and targeted at different user groups. Mechanisms should be strengthened or established for transforming scientific and socio-economic assessments into information suitable for both planning and public information. Electronic and non-electronic formats should be used.

24. Establishment of standards and methods for handling information:

Governments should support efforts by governmental as well as non-governmental organizations to develop mechanisms for efficient and harmonized exchange of information, at the national and international level, including revision of, and the establishment of data formats, access formats and mechanisms, and communication interfaces.

25. Development of information about information: the organizations of the United Nations system, as well as other governmental and non-governmental organizations should ensure that information about information be well documented and shared. Existing programmes, such as UN-ACCIS and INFOTERRA, should be reviewed and strengthened as required. Networking and coordinating mechanisms, between the wide variety of other actors, should be encouraged, including arrangements with non-governmental organizations for information sharing, donor activities for sharing information on sustainable development projects. The private sector should be encouraged to strengthen the mechanisms of sharing their experiences and information. An independent "Informationwatch" should be put in place to actively seek out and identify shortcomings in existing information systems, to identify missed opportunities, to make unmade connections between users and information systems, and to recommend specific areas for future development and investment.

26. Establishment of and strengthening of electronic networking capabilities: countries, international organizations, including organizations of the United Nations system and non-governmental organizations should exploit various initiatives for electronic links, to support sharing information, providing access to databases and other information sources, communication for meeting broader objectives, such as the implementation of Agenda 21, facilitating intergovernmental negotiations, monitoring of conventions and sustainable development efforts, transmitting environmental alerts, and transfer of technical data. These organizations should also facilitate the linkage of different electronic networks and the use of appropriate standards and communication protocols for the transparent interchange of electronic communications. Where necessary, new technology should be encouraged to enable participation of those not presently served by existing infrastructure and methods. Mechanisms should also be established to carry out the necessary transfer of information to and from non-electronic systems to ensure the involvement of those not able to participate in this way.

27. Making use of commercial information sources: countries and international organizations should undertake surveys of the supply and demand of sustainable development information, and of present communications arrangements, to determine gaps and how these could be filled by commercial or

quasi-commercial activity, preferably including activities in and/or involving developing countries where feasible. In addition, where there are no gaps, but there are economic barriers to supplying and accessing information, such as in developing countries, innovative schemes for explicitly subsidizing such information related access should be established.

Means of implementation

28. Finance and cost evaluation: this programme area involves strengthening existing country and international programmes. About \$130 million per year will be needed for technical cooperation activities, and up to \$35 million per year for strengthening activities in international organizations.

29. Institutional means: the institutional implications of this programme concern mostly the strengthening of already existing institutions. The independent "Informationwatch" mechanism could be an existing non-governmental organization, ^{4/} or a group of information professionals, specifically charged with the task. In any case, it should report to the same body charged with the follow-up of Agenda 21.

30. Capacity building: Developed countries and relevant international organizations should assist developing countries to expand their capacity to receive, contribute, disseminate, use and provide public access to relevant environmental information, by providing technology and training to establish local information services, and supporting partnership and cooperative arrangements between countries and on the regional level.

31. Scientific and technological means: developed countries, and relevant international organizations should support research and development in hardware and software and other aspects of information technology in developing countries, appropriate to their operations, environment and needs.

Notes

1/ The sustainability of the development process should be determined by indicators that are based upon appropriate environment and development variables that have been systematically observed and assessed.

2/ Earthwatch is a United Nations system-wide mechanism which, in collaboration with the international scientific community and other relevant organizations, gathers, integrates and analyses data and information on environment and development to identify potential global environmental problems and to produce multidisciplinary assessments of environmental states and trends at global, regional and national levels. These assessments enable early warnings of environmental threats and identification of policy responses and management actions necessary to achieve sustainable development.

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Notes (continued)

3/ See the chapter entitled "National mechanisms and international cooperation for capacity building in developing countries" (A/CONF.151/PC/100/Add.11).

4/ Some efforts are already under way in this regard, such as for example the Fund for New Communications Networks coordinated by the Telecommunications Cooperative Network (TCN).
